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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/004,354 | 10/31/2001 | Masaaki Noda | 9319K-000294 | 3786 |

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EXAMINER

CONNOLLY, PATRICK J

ART UNIT PAPER NUMBER

2877

DATE MAILED: 09/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/004,354

Applicant(s)

NODA, MASA AKI

Examiner

Patrick J Connolly

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-24 and 26-43 is/are allowed.
- 6) ☒ Claim(s) 25 and 44-46 is/are rejected.
- 7) ☒ Claim(s) 1-10 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other:

DETAILED ACTION

Claim Objections

Claim 1 objected to because of the following informalities: In the last line, the limitation “density” is recited. It is believed that the applicant intended to recite “intensity” and has been examined as such. . Appropriate correction is required.

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 25 and 44-46 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by U.S. Pregrant Publication 2001/0026348 to Murata et al (hereafter Murata).

As to claims 25 and 44-46, Murata discloses a method for manufacturing a liquid crystal display including (see figure 7, 8 and paragraphs 0042-0047):

measuring gap values of a plurality of points (via measuring cell wall height)

and injecting liquid crystal when the value is within a prescribed range.

With further regard to claims 25 and 44-46, the examiner would like to point out that the method of manufacturing is not further limited by the measuring apparatus as recited.

Allowable Subject Matter

Claims 1-10 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

Claims 11-24 and 26-43 allowed.

The following is an examiner’s statement of reasons for allowance:

As to claim 1, the prior art of record, taken alone or in combination, fails to disclose or render obvious a gap measuring method including: taking an images of an interference fringe corresponding to a stepped shifted wavelengths at a plurality of points, obtaining a change in the intensity of the images and determining the gap value based on the obtained changes in the intensity, in combination with the rest of the limitations of claim 1.

As to claim 11, the prior art of record, fails to disclose or render obvious a gap measuring apparatus including: a variable wavelength light source; an image memory for storing interference images over a range of shifted wavelengths; and means for determining gap values of a plurality of points based on changes in the intensity of the interference images, in combination with the rest of the limitations of claim 11.

As to claim 12, the prior art of record, fails to disclose or render obvious a gap measuring apparatus including: a filter for shifting the wavelength of a white light source; an image memory for storing interference images over a range of wavelengths; and means for determining gap values of a plurality of points based on changes in the intensity of the interference images, in combination with the rest of the limitations of claim 12.

As to claim 13, the prior art of record, fails to disclose or render obvious a gap measuring apparatus including: a variable wavelength light source; optical means for directing light from said source to a measured object with a gap; an image memory for storing interference images over a range of shifted wavelengths; and means for determining gap values of a plurality of points based on changes in the intensity of the interference images, in combination with the rest of the limitations of claim 13.

As to claim 14, the prior art of record, fails to disclose or render obvious a gap measuring apparatus including: a filter for shifting the wavelength of a white light source; optical means for directing light from said source to a measured object with a gap; an image memory for storing interference images over a range of wavelengths; and means for determining gap values of a plurality of points based on changes in the intensity of the interference images, in combination with the rest of the limitations of claim 14.

As to claim 18, the prior art of record, fails to disclose or render obvious a gap measuring apparatus including: a variable wavelength light source; an image memory for storing interference images over a range of shifted wavelengths; means for determining gap values of a plurality of points based on changes in the intensity of the interference images; and gap-value-to-shape conversion means, in combination with the rest of the limitations of claim 18.

As to claim 19, the prior art of record, fails to disclose or render obvious a gap measuring apparatus including: a filter for shifting the wavelength of a white light source; an image memory for storing interference images over a range of wavelengths; means for determining gap values of a plurality of points based on changes in the intensity of the interference images; and gap-value-to-shape conversion means, in combination with the rest of the limitations of claim 19.

As to claim 20, the prior art of record, fails to disclose or render obvious a gap measuring apparatus including: a variable wavelength light source; optical means for directing light from said source to a measured object with a gap; an image memory for storing interference images over a range of shifted wavelengths; means for determining gap values of a plurality of points based on changes in the intensity of the interference images; and gap-value-to-shape conversion means, in combination with the rest of the limitations of claim 20.

As to claim 21, the prior art of record, fails to disclose or render obvious a gap measuring apparatus including: a filter for shifting the wavelength of a white light source; optical means for directing light from said source to a measured object with a gap; an image memory for storing interference images over a range of wavelengths; means for determining gap values of a plurality of points based on changes in the intensity of the interference images; and gap-value-to-shape conversion means, in combination with the rest of the limitations of claim 21.

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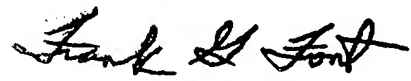
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick J Connolly whose telephone number is 703.305.4397. The examiner can normally be reached on 9 am-5.30 pm ... Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on 703.308.4881. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.308.0956.

pjc^{sc}


Frank G. Font
Supervisory Patent Examiner
Technology Center 2810